

Naval Education and
Training Command

NAVEDTRA 82521
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0503-LP-478-6600

Nonresident Training
Course (NRTC)



Builder 3 & 2, Volume 2

Only one answer sheet is included in the NRTC. Reproduce the required number of sheets you need or get answer sheets from your ESO or designated officer.

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COMMANDING OFFICER
NETPDTC
6490 SAUFLEY FIELD RD
PENSACOLA, FL 32509-5237

ERRATA #2

1 Jun 2000

Specific Instructions and Errata for
Nonresident Training Course

BUILDER 3 & 2, VOLUME 2, NAVEDTRA 82521

1. This errata supersedes all previous erratas. No attempt has been made to issue corrections for errors in typing, punctuation, etc., that do not affect your ability to answer the question or questions.
2. To receive credit for deleted questions, show this errata to your local course administrator (ESO/scorer). The local course administrator is directed to correct the course and the answer key by indicating the questions deleted.
3. Assignment Booklet, NAVEDTRA 82521

Delete the following questions, and leave the corresponding spaces blank on the answer sheets:

Questions

2-43
2-59
2-61
3-70
4-40
4-44

Questions

4-65
4-66
5-5
5-15
5-16
5-25

Builder 3 & 2, Volume 2

NAVEDTRA 82521

Prepared by the Naval Education and Training Program Management
Support Activity, Pensacola, Florida

Congratulations! By enrolling in this course, you have demonstrated a desire to improve yourself and the Navy. Remember, however, this self-study course is only one part of the total Navy training program. Practical experience, schools, selected reading, and your desire to succeed are also necessary to successfully round out a fully meaningful training program. You have taken an important step in self-improvement. Keep up the good work.

HOW TO COMPLETE THIS COURSE SUCCESSFULLY

ERRATA: If an errata comes with this course, make all indicated changes or corrections before you start any assignment. Do not change or correct the Training Manual (TRAMAN) or assignments in any other way.

TEXTBOOK ASSIGNMENTS: The TRAMAN for this course is *Builder 3&2, Volume 2*, NAVEDTRA 12521. The TRAMAN pages that you are to study are listed at the beginning of each assignment. Study these pages carefully before attempting to answer the questions in the course. Pay close attention to tables and illustrations because they contain information that will help you understand the text. Read the learning objectives provided at the beginning of each chapter or topic in the text and/or preceding each set of questions in the course. Learning objectives state what you should be able to do after studying the material. Answering the questions correctly helps you accomplish the objectives.

BLACK DOT INFORMATION Black dots (●) may be used in the text and correspondence course to emphasize important or supplemental information and to highlight instructions for answering certain questions. Read these black dot entries carefully; they will help you answer the questions and understand the material.

SELECTING YOUR ANSWERS: After studying the TRAMAN, you should be ready to answer the questions in the assignment. Read each question carefully, then select the BEST answer. Be sure to select your answer from the subject matter in the TRAMAN. You may refer freely to the TRAMAN and seek advice

and information from others on problems that may arise in the course. However, the answers must be the result of your own work and decisions. You are prohibited from referring to or copying the answers of others and from giving answers to anyone else taking the same course. Failure to follow these rules can result in suspension from the course and disciplinary action.

SUBMITTING COMPLETED ANSWER SHEETS: Complete all assignments as quickly as possible to derive maximum benefit from the course. As a minimum, you must submit at least one assignment per month. This is a requirement established by the Chief of Naval Education and Training. Failure to meet this requirement could result in disenrollment from the course.

TYPES OF ANSWER SHEETS: If you are a U.S. Navy enlisted member on active duty or a drilling U.S. Naval Reserve enlisted member, you should use the answer sheet attached at the end of this course and follow the instructions in section A below. If you are an enlisted U.S. Naval Reserve member who is not attached to a drilling unit or if you are an officer, a civilian, or a member of the U.S. Army, Air Force, Marine Corps, or Coast Guard, you should use the Automatic Data Processing (ADP) answer sheets included in the course package and follow the instructions in section B.

A. Manually Scored Answer Sheets

If you are a U.S. Navy enlisted member on active duty or attached to a U.S. Naval Reserve drilling unit, your course will be administered by your local command. You must use the answer sheet designed for

manual scoring, NETPMSA form 1430/5, Stock Ordering Number 0502-LP-216-0100. You may get a supply of the forms from your Educational Services Officer (ESO), or you may reproduce the one in the back of this course booklet. DO NOT USE THIS FORM FOR COURSES ADMINISTERED BY NETPMSA.

Recording Information on the Manually Scored Answer Sheets: As you complete each assignment, submit the completed answer sheet to your ESO for grading. You may submit more than one answer sheet at a time. Remember, you must submit at least one assignment each month.

Grading: Your ESO will grade each answer sheet and notify you of any incorrect answers. The passing score for each assignment is 3.2. If you receive less than 3.2 on any assignment, the ESO will list the questions you answered incorrectly and give you an answer sheet marked "RESUBMIT." You must redo the assignment and complete the RESUBMIT answer sheet. The maximum score you can receive for a resubmitted assignment is 3.2.

Course Completion: After you have submitted all the answer sheets and have earned at least 3.2 on each assignment, your command should give you credit for this course by making the appropriate entry in your service record.

Student Questions: If you have questions concerning the administration of this course, consult your ESO.

B. ADP Answer Sheets

If you are an enlisted U.S. Naval Reserve member who is not attached to a drilling reserve unit or if you are an officer, a civilian, or a member of the U.S. Army, Air Force, Marine Corps, or Coast Guard, use the ADP answer sheets provided in your course package. You should use one blank original ADP answer sheet for each assignment. Use only the original ADP answer sheet provided in your course package; NETPMSA will not accept reproductions.

Recording Information on the ADP Answer Sheets: Follow the "MARKING INSTRUCTIONS" on each answer sheet. Be sure that blocks 1, 2, and 3 are filled in correctly. This information is necessary for

your course to be properly processed and for you to receive credit for your work.

As you work the course, be sure to mark your answers in the course booklet because your answer sheets will not be returned to you. When you have completed an assignment, transfer your answer from the course booklet to the answer sheet.

Mailing the Completed ADP Answer Sheets: Upon completing an assignment, mail the completed answer sheet to:

COMMANDING OFFICER
NETPMSA CODE 074
6490 SAUFLEY FIELD RD
PENSACOLA FL 32559-5000

Use envelopes to mail your answer sheets. You must provide your own envelopes or request them from your ESO. You may enclose more than one answer sheet in a single envelope. Remember, regardless of how many answer sheets you submit at a time, NETPMSA should receive at least one assignment a month.

NOTE: DO NOT USE THE COURSE COMMENTS PAGE AS AN ENVELOPE FOR RETURNING ANSWER SHEETS OR OTHER COURSE MATERIALS.

Grading: NETPMSA will grade the answer sheets and notify you by letter concerning your grade for each assignment, your incorrect answers, and your final grade. The passing score for each assignment is 3.2. If you receive less than 3.2 on any assignment, you must rework the assignment. NETPMSA will enclose a new ADP answer sheet in the letter notifying you of the questions you answered incorrectly. You will be required to redo the assignment and resubmit the new answer sheet. The maximum score you can receive for a resubmitted assignment is 3.2.

Course Completion: When you complete the last assignment, fill out the "Course Completion" form in the back of the course and enclose it with your last answer sheet. NETPMSA will issue you a letter certifying that you satisfactorily completed the course. You should make sure that credit for the course is recorded in your service record. YOU MAY RETAIN THE TEXT.

NOTE: YOUR OFFICIAL COURSE COMPLETION DATE WILL BE THE DATE YOUR LAST ASSIGNMENT IS PROCESSED THROUGH THE NETPMSA ADP SYSTEM--NOT THE DATE YOU DEPOSIT THE LAST ASSIGNMENT IN THE MAIL. This is especially important if you are taking the course for Naval Reserve retirement credit. You must mail your answer sheets at least 60 days before your anniversary date. This will provide you with enough time for delays in the mail or reworking failed assignments. DO NOT MAIL YOUR ASSIGNMENTS TO THE NAVAL RESERVE PERSONNEL COMMAND (NRPC).

Student Questions Refer questions concerning this course to NETPMSA by mail (use the address on page ii) or by telephone: DSN 922-1366 or commercial (904) 452-1366.

NAVAL RESERVE RETIREMENT CREDIT

If you are a member of the Naval Reserve, you will receive retirement points if you are authorized to receive them under current directives governing retirement of

Naval Reserve personnel. For the purpose of Naval Reserve retirement, this edition of the course is evaluated at 9 points. These points will be credited to you upon your satisfactory completion of the entire course.

NOTE: YOUR OFFICIAL COURSE COMPLETION DATE WILL BE THE DATE YOUR LAST ASSIGNMENT IS PROCESSED THROUGH THE NETPMSA ADP SYSTEM--NOT THE DATE YOU DEPOSIT THE LAST ASSIGNMENT IN THE MAIL. Refer to the Course Completion paragraph under section B. ADP Answer Sheets.

COURSE OBJECTIVES

Upon completing this NRTC, you should be able to demonstrate an understanding of the following areas: floor and wall construction; roof framing; exterior and interior finishing; plastering, stuccoing, and ceramic tile; paints and preservatives; advanced base field structures; and heavy construction.

Naval courses may include several types of questions-multiple-choice, true-false, matching, etc. The questions are not grouped by type but by subject matter. They are presented in the same general sequence as the textbook material upon which they are based. This presentation is designed to preserve continuity of thought, permitting step-by-step development of ideas. Not all courses use all of the types of questions available. The student can readily identify the type of each question, and the action required, by inspection of the samples given below.

MULTIPLE-CHOICE QUESTIONS

Each question contains several alternatives, one of which provides the best answer to the question. Select the best alternative, and blacken the appropriate box on the answer sheet.

SAMPLE

- s-1. Who was the first person appointed Secretary of Defense under the National Security Act of 1947?
- 1. George Marshall
 - 2. James Forrestal
 - 3. Chester Nimitz
 - 4. William Halsey

Indicate in this way on the answer sheet:

	1	2	3	4	
	T	F			
s-1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---

TRUE-FALSE QUESTIONS

Mark each statement true or false as indicated below. If any part of the statement is false the statement is to be considered false. Make the decision, and blacken the appropriate box on the answer sheet.

SAMPLE

- s-2. All naval officers are authorized to correspond officially with any systems command of the Department of the Navy without their respective commanding officer's endorsement.
- 1. True
 - 2. False

Indicate in this way on the answer sheet:

	1	2	3	4	
	T	F			
s-2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---

MATCHING QUESTIONS

Each set of questions consists of two columns, each listing words, phrases or sentences. The task is to select the item in column B which is the best match for the item in column A that is being considered. Items in column B maybe used once, more than once, or not at all. Specific instructions are given with each set of questions. Select the numbers identifying the answers and blacken the appropriate boxes on the answer sheet.

SAMPLE

In questions s-3 through s-6, match the name of the shipboard officer in column A by selecting from column B the name of the department in which the officer functions. Some responses maybe used once, more than once, or not at all.

A. OFFICER

B. DEPARTMENT

- | | |
|-------------------------------|---------------------------|
| s-3. Damage Control Assistant | 1. Operations Department |
| s-4. CIC Officer | 2. Engineering Department |
| s-5. Disbursing Officer | 3. Supply Department |
| s-6. Communications Officer | |

Indicate in this way on the answer sheet:

	1	2	3	4	
	T	F			
s-3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---
s-4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---
s-5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	---
s-6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---

ASSIGNMENT 1

Textbook Assignment: Chapter 1 - Light Floor and Wall Framing

- | | |
|--|--|
| <p>1-1. In wood frame construction, what is the lowest member resting on the foundation?</p> <ol style="list-style-type: none">1. Platform2. Plank3. Stud4. Sill plate <p>1-2. The edge of a sill is usually set back from the outside edge of the foundation by what distance?</p> <ol style="list-style-type: none">1. The thickness of the sheathing2. The thickness of the header joist3. The thickness of the siding4. Twice the thickness of the sheathing <p>1-3. After bolt holes are drilled and the sill properly fitted, what is normally the next step?</p> <ol style="list-style-type: none">1. Install the header joist2. Place the sill sealer3. Install the floor joists4. Install the washers and nuts <p>1-4. When information is not provided in the specifications, anchor bolt spacing is normally 6 feet.</p> <ol style="list-style-type: none">1. True2. False <p>1-5. Which of the following items is/are considered a dead load?</p> <ol style="list-style-type: none">1. Furniture2. Floor joists3. Appliances4. People <p>1-6. When placing a girder in the pocket of a concrete wall, the minimum bearing should be</p> <ol style="list-style-type: none">1. 1 in.2. 2 in.3. 3 in.4. 4 in. | <p>1-7. Header joists prevent common joists from rolling or tipping.</p> <ol style="list-style-type: none">1. True2. False <p>1-8. Which of the following joist types is used when the a joist projects out over the wall below?</p> <ol style="list-style-type: none">1. Common2. Trimmer3. Cantilevered4. Cripple <p>1-9. Which of the following joist spans requires more than one row of bridging?</p> <ol style="list-style-type: none">1. 16 ft2. 14 ft3. 12 ft4. 10 ft <p>1-10. When installed in a straight line, which of the following bridging types provides an additional nailing base for the subfloor?</p> <ol style="list-style-type: none">1. Diagonal2. Herringbone3. Solid4. Cross <p>1-11. Before placing floor joists, which of the following members must be marked to show joist nailing points?</p> <ol style="list-style-type: none">1. Soleplate and top plate only2. Sill plate and girders only3. Common joists and doubled joists only4. All of the above <p>1-12. Floor joists are always placed 16 inches OC.</p> <ol style="list-style-type: none">1. True2. False |
|--|--|

- 1-13. When joists are laid out 16 inches OC, the distance from the edge of the building to the first joist should be
1. 14 1/2 in.
 2. 15 1/4 in.
 3. 16 in.
 4. 16 3/4 in.
- 1-14. What is the main reason for special framing around large floor openings?
1. Appearance
 2. Provide additional nailing surface
 3. Strength
 4. Prevent floor squeaks
- 1-15. A pair of joists placed at each end of an opening and supporting a header is called what type of joist?
1. Trimmer
 2. Double
 3. Tail
 4. Common
- 1-16. When placing a joist, the crown should be turned in what direction?
1. Left
 2. Right
 3. Down
 4. Up
- 1-17. Any board can be used as a joist regardless of the size of the crown.
1. True
 2. False
- 1-18. Plywood subflooring with an index mark of 32/16 can be used over what maximum OC joist spacing?
1. 48 in.
 2. 32 in.
 3. 24 in.
 4. 16 in.
- 1-19. Which of the following framing members tie the entire wall together?
1. Studs
 2. Posts
 3. Sills
 4. Plates
- 1-20. What component is required at the intersections and ends of a wall?
1. Corner post
 2. Cripple stud
 3. Diagonal brace
 4. Header
- 1-21. When you are rough framing a window opening, the trimmer studs are installed between what two components?
1. Double top plate and header
 2. Top plate and subfloor
 3. Header and bottom plate
 4. Header and subfloor
- 1-22. A header is supported by which of the following studs?
1. Trimmer
 2. Cripple
 3. Common
 4. Header
- 1-23. What is the standard wall height in wood framed construction?
1. 7 ft 10 in.
 2. 8 ft
 3. 8 ft 1 in.
 4. 8 ft 6 in.
- 1-24. What type of wall strength is increased by diagonal bracing?
1. Lateral
 2. Compressive
 3. Tensile
 4. Flexural
- 1-25. Which of the following is the strongest type of diagonal bracing?
1. Cut-in bracing
 2. Let-in bracing
 3. Diagonal sheathing
 4. Horizontal bracing

- 1-26. Diagonal bracing is most effective when installed at which of the following angles?
1. 25° to 35°
 2. 45° to 60°
 3. 65° to 75°
 4. 80° to 90°
- 1-27. What is/are the main purpose(s) of a fire stop in a wall?
1. Slow the travel of fire inside a wall only
 2. Provide additional backing for nailing the edges of dry wall or plywood only
 3. Both 1 and 2 above
 4. Stop a fire inside a wall
- 1-28. The locations of walls constructed in the horizontal layout method are found in which of the following sources?
1. Floor plans
 2. Specifications
 3. Table of measures
 4. Measurement-conversion chart
- 1-29. When laying out studs 16 inches OC, why should you place the first stud 15 1/4 inches from the corner?
1. To allow for the corner post
 2. To provide additional nailing surface for sheathing
 3. To allow for 3/4-in. error when laying off the remaining studs
 4. To allow for the sheathing edges to fall on the centers of the studs
- 1-30. To determine the length of studs, cripples and trimmers, you should use which of the following layouts?
1. Vertical
 2. Horizontal
 3. Wall
 4. Top plate
- 1-31. The measurement from the subfloor to the bottom of the door header can also be used to establish which of the following measurements?
1. Rough opening width for door openings
 2. Rough opening height for windowsills
 3. Rough opening height for window openings
 4. Overall wall height
- 1-32. Which way should the crown of a stud be turned on an exterior wall?
1. Up
 2. Down
 3. Side
- 1-33. The minimum distance between butt joints in the top plate and the double top plate should be
1. 24 in.
 2. 32 in.
 3. 48 in.
 4. 96 in.
- 1-34. What is the recommended order in raising walls?
1. Long exterior, short exterior, partitions
 2. Partitions, long exterior, short exterior
 3. Short exterior, long exterior, partitions
 4. Long exterior, partitions, short exterior
- 1-35. To accurately plumb a wall, you need which of the following tools?
1. Straightedge only
 2. Level only
 3. Straightedge and level
 4. Plumb

- 1-36. Compared to other exterior finishes, plywood panels have what advantage(s)?
1. They provide additional strength only
 2. They shorten installation time only
 3. They eliminate the need for diagonal bracing only
 4. All of the above
- 1-37. What size nail is recommended for installing 5/8-inch sheathing?
1. 4d
 2. 6d
 3. 8d
 4. 10d
- 1-38. When nailing plywood panels in place, you should leave gaps at the joints to allow for expansion.
1. True
 2. False
- 1-39. What type of wall is usually constructed when large pipes must pass vertically through it?
1. Reinforced
 2. Bearing
 3. Partition
 4. Chase
- 1-40. What is the purpose of corner and casing beads?
1. Protect and reinforce corners and edges of drywall
 2. Add additional support for nonbearing walls
 3. Allow for expansion
 4. Improve the appearance of the finished wall
- 1-41. The size of a ceiling joist is determined by what two factors?
1. Height of walls and span from wall to wall
 2. Weight it must carry and span from wall to wall
 3. Height of bearing wall and OC spacing
 4. OC spacing and span from wall to wall
- 1-42. All joists must run in the same direction.
1. True
 2. False
- 1-43. Ceiling joists supported by a bearing partition should overlap what minimum distance?
1. 16 in.
 2. 12 in.
 3. 8 in.
 4. 4 in.
- 1-44. Which of the following components can be used to help support a ceiling joist at the center of its span?
1. Strongback
 2. Joist hanger
 3. Ribband
 4. Diagonal brace
- 1-45. Double joists and headers are required when an attic scuttle is larger than what minimum size?
1. 5 ft by 5 ft
 2. 2 ft by 2 ft
 3. 3 ft by 3 ft
 4. 4 ft by 4 ft
- 1-46. The lowest framing member resting on the foundation is called
1. a box sill
 2. the nailing base for joists
 3. the sill plate
 4. the foundation wall
- 1-47. When placing anchor bolts in a reinforced concrete wall, the bolt should be embedded at least 7 inches.
1. True
 2. False

- 1-48. Which of the following statements is generally true of wood posts?
1. They are placed directly below wood girders
 2. The width of the post should be equal to the girder it supports
 3. They are always embedded in concrete
- 1-49. The crawl space for a structure should have what minimum distance between the ground and the bottom of the girder?
1. 24 in.
 2. 18 in.
 3. 16 in.
 4. 12 in.
- 1-50. In platform framing, a floor joist rests directly on which of the following components?
1. Top plate only
 2. Sill plate only
 3. Either 1 or 2 above
 4. Exterior foundation
- 1-51. What is the recommended method for connecting header and floor joists?
1. Face-nailing with 12d nails
 2. Face-nailing with 16d nails 16-in. OC
 3. Face nailing with 10d nails 16-in. OC
 4. End nailing with 16d nails
- 1-52. What is the correct sequence for securing a subfloor and cross bridging to the floor joists?
1. Nail the subfloor, then the top and bottom of the bridging
 2. Nail the top of bridging, then the subfloor, and finally the bottom of the bridging
 3. Nail the top and bottom of the bridging, then the subfloor
 4. Nail the bottom of the bridging, then the subfloor, and finally the top of the bridging
- 1-53. Which of the following structural components serve to tie the entire wall together?
1. Studs
 2. Corner posts
 3. Top or bottom plates
 4. Trimmers
- 1-54. Bottom plate layout should include marks for which of the following framing members?
1. Floor joists only
 2. Corner posts only
 3. Header joists only
 4. All of the above
- 1-55. Temporary bracing used for wall alignment should be removed at what point during construction?
1. After wall alignment is completed
 2. After exterior sheathing is completed
 3. Before the ceiling joists are placed
 4. After all framing and sheathing are completed
- 1-56. What is the main structural function of a ceiling frame?
1. Support the finished ceiling
 2. Support the top of nonbearing partitions walls
 3. Tie the exterior walls together
 4. Support the weight of the rafters
- 1-57. Backing at the top of walls serves what purpose?
1. Tie the walls together
 2. Provide additional nailing area for joists
 3. Keep the studs spaced properly
 4. Provide nailing surface for the edge of finish ceiling materials

ASSIGNMENT 2

Textbook Assignment: Chapter 2 - Roof Framing

- 2-1. Which of the following types of roof is most commonly used in the Navy?
1. Shed
 2. Hip
 3. Gable
 4. Intersecting
- 2-2. Which of the following types of roof is considered strongest?
1. Shed
 2. Hip
 3. Gable
 4. Intersecting
- 2-3. A roof having only one slope is considered what type?
1. Shed
 2. Hip
 3. Gable
 4. Intersecting
- 2-4. In roof construction, the ratio of unit of rise to unit of span is known by what term?
1. Total run
 2. Line length
 3. Total rise
 4. Pitch
- 2-5. In roof construction, the hypotenuse of a triangle whose base equals the total run and whose altitude equals the total rise is known by what term?
1. Total run
 2. Line length
 3. Total rise
 4. Span
- 2-6. What members make up the main body of a roof framework?
1. Double top plates
 2. Joists
 3. Ceiling framework
 4. Rafters
- 2-7. Rafters are a functional part of both walls and roof.
1. True
 2. False
- 2-8. What type of rafter does not extend the full distance from the plate to the ridgeboard?
1. Jack
 2. Valley
 3. Hip
 4. Common
- 2-9. What type of jack is nailed between hip and valley rafters?
1. Valley
 2. Cripple
 3. Hip
 4. Eave
- 2-10. Which of the following terms describe(s) that portion of a rafter extending beyond the outer edge of the plate?
1. Eave only
 2. Tail only
 3. Overhang only
 4. All of the above
- 2-11. When the blade of a framing square is 24 inches long, the tongue usually varies within which of the following overall lengths?
1. 12 to 16 in.
 2. 16 to 24 in.
 3. 14 to 18 in.
 4. 18 to 24 in.

- 2-12. The hypotenuse is the longest side of a right triangle.
1. True
 2. False
- 2-13. Which of the following framing square scales is NOT used in roof framing?
1. Octagon
 2. Hundredths
 3. Tenths
 4. Twelfths
- 2-14. On a framing square, the longest lines on the hundredths scale indicate how many hundredths of an inch?
1. 5
 2. 10
 3. 25
 4. 50
- 2-15. On a framing square, where is the octagon scale located?
1. Back side of the tongue
 2. Down the face of the tongue
 3. Down the face of the blade
 4. Down the middle of the back side of the blade
- 2-16. To use the octagon scale on a framing square, you set one leg of the divider on the first dot of the scale, and the other leg of the divider/dividers on the dot whose number corresponds to what dimension of the piece to be cut?
1. Width in inches divided by eight
 2. Width in inches divided by four
 3. One-half the length of the center line
 4. Width in inches
- 2-17. How many tables does a framing square have?
1. One
 2. Two
 3. Three
 4. Four
- 2-18. Which of the following framing square features is primarily used for estimating board feet?
1. Brace table
 2. Essex-board table
 3. Rafter table
 4. Octagon scale
- 2-19. On a framing square, where is the brace table located?
1. Back of the blade
 2. Face of the blade
 3. Face of the tongue
 4. Back of the tongue
- 2-20. A gable roof slopes in how many directions?
1. One
 2. Two
 3. Three
 4. Four
- 2-21. The run of an overhang should be measured between what two points?
1. From the top plate to the bottom of the ridgeboard
 2. From the building line to the plumb line of the ridgeboard
 3. From the building line to the tail cut on the rafter
 4. From the ridgeboard to the tail cut on the rafter
- 2-22. A bird's-mouth is formed by what two cuts?
1. Tail and heel
 2. Ridge and tail
 3. Seat and ridge
 4. Heel and seat
- 2-23. The length of a rafter from the heel plumb line to the shortened plumb line is known as what type?
1. Actual
 2. Theoretical
 3. Line
 4. Common

- 2-24. What angle should a hip rafter form with the building line?
1. 90°
 2. 60°
 3. 45°
 4. 30°
- 2-25. The unit of rise is always the same for hip and common rafters, but the unit of run for a hip rafter is different.
1. True
 2. False
- 2-26. With a hip rafter framed against a common rafter, the shortening allowance should be what dimension?
1. One-half of the 45° thickness of the ridge
 2. One-fourth of the 45° thickness of a common rafter
 3. One-half of the 45° thickness of a common rafter
 4. One-half of the thickness of the ridge
- 2-27. What feature is required when a hip rafter joins the ridge or the ridge ends at other than 90°?
1. Bird's mouth
 2. Angle cut
 3. Tail cut
 4. Side cut
- 2-28. What procedure should you use on a hip rafter to keep it level with a common rafter?
1. Plane the top of the hip rafter
 2. Bevel the top edges only
 3. Deepen the bird's-mouth only
 4. Either 2 or 3 above
- 2-29. On an intersecting roof, the area where two or more sloped roof sections intersect is known by what term?
1. Valley
 2. Ridge
 3. Hip
 4. Gable
- 2-30. Which of the following features can run from valley rafters to both ridges?
1. Hip jack
 2. Valley jack
 3. Supporting valley
 4. Common rafter
- 2-31. Which of the following features can run at a 45° angle to the exterior walls
1. Valley rafter
 2. Hip jack
 3. Supporting valley
 4. Hip
- 2-32. Which of the following techniques should be used in constructing an intersecting roof that has one long and one short valley rafter?
1. Frame both valley rafters up against the main ridge
 2. Frame both valley rafters against the intersecting ridge
 3. Frame the long valley rafter up against the intersecting ridge and the short rafter up against the main ridge
 4. Frame the long valley rafter up against the main ridge and the short valley rafter up against the long valley rafter
- 2-33. What is the shortening allowance of a valley rafter when a dormer without sidewalls is framed between double headers with a combined actual thickness of 3 1/4 inches?
1. One-half of the 45° thickness of the inside upper double header only
 2. One-half of the 45° thickness of the common rafter only
 3. Both 1 and 2 above
 4. One-half of the total thickness of the upper and lower double headers

- 2-34. In an equal-pitch framing situation, the unit of rise of a jack rafter is always the same as the unit of rise of a common rafter?
1. True
 2. False
- 2-35. Which of the following jack rafter types extends from a hip rafter to a valley rafter?
1. Valley
 2. Cripple
 3. Valley cripple
 4. Hip-valley cripple
- 2-36. When erecting a gable roof, what components are constructed first?
1. Cripple and jack rafters
 2. Gable-end rafters and the ridge
 3. Hip rafters
 4. Valley rafters
- 2-37. How long should the temporary bracing used in roof erection be left in place?
1. Until sufficient sheathing has been installed to hold the rafters in place
 2. Until the wind has died down
 3. 3 days
 4. 4 days
- 2-38. Which of the following features is used to support loads over a long span without intermediate support or supports?
1. Dormer
 2. Valley rafter
 3. Roof truss
 4. Common rafter
- 2-39. When building with trusses, double top plates and double floor joists are required.
1. True
 2. False
- 2-40. Which of the following truss components acts as a ceiling joist?
1. Gusset
 2. Top cord
 3. Bottom cord
 4. Web
- 2-41. Which of the following structural components is eliminated because trusses are self-supporting?
1. Interior bearing partitions
 2. Gussets
 3. Double top plates
 4. Floor joists
- 2-42. In frame construction, what truss type(s) is/are most commonly used?
1. King post only
 2. W-type only
 3. Scissors and W-types only
 4. All of the above
- 2-43. Which of the following trusses consists of top and bottom chords tied together with web members?
1. W-type only
 2. Fink only
 3. W-type and Fink
 4. Scissors
- 2-44. The load carried by a roof truss is directly transferred to what other structural component(s)?
1. Floor
 2. Foundation
 3. Outside walls
 4. Interior walls
- 2-45. Which of the following item is/are not consideration(s) in truss design?
1. Materials
 2. Snow and wind loads
 3. Weight of roof itself
 4. Slope of roof

- 2-46. Each part of a truss is in a state of compression or tension. Which of the following states, if any, describe(s) the pushing-together force?
1. State of tension only
 2. State of compression only
 3. All of the above
 4. None of the above
- 2-47. In what positions should trusses be (a) handled and (b) stored?
1. (a) Horizontal (b) horizontal
 2. (a) Horizontal (b) vertical
 3. (a) Vertical (b) horizontal
 4. (a) Vertical (b) vertical
- 2-48. Which of the following features is/are necessary to resist wind uplift force?
1. Temporary bracing
 2. Gussets
 3. Trusses anchored to outside walls
 4. Blocking at lower chords
- 2-49. Toenailing is the most satisfactory method of securing a truss to an outside wall?
1. True
 2. False
- 2-50. A partition can be nailed directly to the lower chord under which of the following conditions, if any?
1. A partition runs at right angles to the bottom of the truss chord
 2. Partitions are erected after ceiling finish is applied
 3. A partition runs parallel with the bottom chord
 4. None of the above
- 2-51. Which of the following scales on a framing square is graduated in inches and provides various shortcuts in problem solving?
1. Tenths
 2. Twelfths
 3. Hundredths
 4. Octagon
- 2-52. In a gable roof, why is a ridgeboard placed at the peak of the roof?
1. Provide a nailing surface for the top ends of the common rafter
 2. Provide a nailing surface for one end of the common rafter
 3. Provide a starting point for the peak of the roof
 4. Provide the starting point for roof sheathing
- 2-53. All common rafters for a gable roof are the same length.
1. True
 2. False
- 2-54. Which of the following terms is another name for the notch formed by the seat and heel cut?
1. Overhang
 2. Projection
 3. Bird's mouth
- 2-55. When installing a roof where the ridgeboard is longer than one piece, where should the break between the boards occur?
1. Between the rafters
 2. Center of a rafter
 3. At the end of a rafter
- 2-56. When working with gable or double-pitch roofs which of the following is/are normally considered for additional horizontal reinforcement?
1. Ceiling joists
 2. Gable studs
 3. Collar ties
 4. Ridgeboard
- 2-57. When framing a roof, the scaffold should be set no lower than what distance below the level of the main-roof ridge?
1. 1 ft
 2. 2 ft
 3. 3 ft
 4. 4 ft

2-58. Which of the following structural members connects the joints on roof trusses?

1. Gussets
2. Templates
3. Collar ties
4. Truss ties

2-59. When working with roof trusses, double top and bottom plates on interior partitions can be eliminated.

1. True
2. False

2-60. What is the estimated material savings when using roof trusses?

1. 10%
2. 20%
3. 30%
4. 40%

2-61. Which of the following basic components of a roof truss also acts as a ceiling joist?

1. Top chord
2. Bottom chord
3. Web members

ASSIGNMENT 3

Textbook Assignment: Chapter 3 - Roof Construction and Trim Carpentry
Chapter 4 - Exterior Finish of Walls

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| <p>3-1. Roof sheathing has what primary purpose?</p> <ol style="list-style-type: none">1. Appearance2. Nailing base for shingles3. Insulation4. Tying rafters together <p>3-2. Composition roof sheathing should be laid in which of the following ways?</p> <ol style="list-style-type: none">1. Closed2. Open, horizontally only3. Open, diagonally only4. Open, horizontally or diagonally <p>3-3. Board roof sheathing normally falls into which of the following categories?</p> <ol style="list-style-type: none">1. Matched tongue and groove only2. Shiplapped only3. Shiplapped and square edged only4. Any of the above <p>3-4. Tongue-and-groove boards used for closed sheathing must be supported by what minimum number of rafters?</p> <ol style="list-style-type: none">1. One2. Two3. Three4. Four <p>3-5. When you are determining the plywood thickness for roof sheathing, which of the following factors should NOT be a consideration?</p> <ol style="list-style-type: none">1. Rafter spacing2. Weather conditions3. Insulating factor4. Type of roofing material to be used | <p>3-6. In what direction relative to the rafters should the face grain of plywood sheathing run?</p> <ol style="list-style-type: none">1. Perpendicular2. Parallel3. Diagonal <p>3-7. When nailing 3/4-inch plywood sheathing to the rafters, what size nails should you use?</p> <ol style="list-style-type: none">1. 10d2. 8d3. 6d4. 4d <p>3-8. What is the purpose of the 2° bevel cut on the ends of plank roof decking?</p> <ol style="list-style-type: none">1. To allow for expansion2. To ensure a tight face joint3. To ensure space for adjustment2. To allow for quicker installation <p>3-9. What length should nails should you use for fastening plank decking?</p> <ol style="list-style-type: none">1. Twice the nominal plank thickness2. Three times the nominal plank thickness3. Three and one-half times the nominal plank thickness4. Four times the nominal plank thickness <p>3-10. Roof decking extending beyond a gable-end wall should span at least how many rafters?</p> <ol style="list-style-type: none">1. One2. Two3. Three4. Four |
|--|--|

- 3-11. Butt joints of plywood sheets should be alternated so they do not occur on the same rafter.
1. True
 2. False
- 3-12. What is the recommended clearance between masonry and wood framing members at a chimney?
1. 1 in.
 2. 2 in.
 3. 3 in.
 4. 4 in.
- 3-13. Which of the following wood characteristics is least important when selecting trim material?
1. Knots
 2. Even grain
 3. Natural decay-resistance
 4. Preservative pretreatment
- 3-14. For exterior trim fasteners, which of the following types of screws or nails is/are preferred?
1. Galvanized steel only
 2. Stainless steel only
 3. Aluminum only
 4. All of the above
- 3-15. What part of a gable roof projects beyond the end wall on an upward slope?
1. Rake
 2. Eave
 3. Fascia
 4. Ledger
- 3-16. On a roof with no overhang, what type of cornice is normally used?
1. Open
 2. Gable
 3. Closed
 4. Simple
- 3-17. In closed-cornice construction, the underside of the eaves is exposed.
1. True
 2. False
- 3-18. Which of the following components provides a nailing base for soffit material?
1. Lookout
 2. Frieze board
 3. Rafter
 4. Plancier
- 3-19. Wood soffit panels should be fastened using nails in what (a) size and (b) spacing?
1. (a) 6d (b) 6 in.
 2. (a) 6d (b) 8 in.
 3. (a) 4d (b) 8 in.
 4. (a) 4d (b) 6 in.
- 3-20. What problem occurs when galvanized nails are used with aluminum sheet metal?
1. Spalling
 2. Electrolysis
 3. Rusting
 4. Peeling
- 3-21. What is the area of a shingle that is not over-lapped called?
1. Top lap
 2. Exposure
 3. Square
 4. Coverage
- 3-22. Which of the following expressions is correct concerning the pitch of a roof with a 6-inch-per-foot rise and a 32-foot span?
1. $1/8$
 2. $1/4$
 3. $1/2$
 4. $3/16$
- 3-23. Using roofing felt over sheathing has what primary purpose(s)?
1. To provide a secondary barrier against wind-driven rain only
 2. To keep the sheathing dry until shingles are applied only
 3. To protect shingles against the effects of resinous materials released from the sheathing only
 4. Each of the above

- 3-24. How many rolls of 30-pound felt are required to cover 48,400 square feet?
1. 121
 2. 242
 3. 363
 4. 484
- 3-25. Which of the following materials should be used as an underpayment?
1. Coated felt
 2. Laminated waterproof paper
 3. Asphalt-saturated felt
 4. Polyethylene sheets
- 3-26. Along cave lines where ice dams might occur, what type of roofing material is recommended?
1. 15-lb felt
 2. 30-lb felt
 3. 55-lb mineral surface
 4. 55-lb smooth surface
- 3-27. Forty-two and one-third squares of strip shingles are contained in how many bundles?
1. 127
 2. 381
 3. 609
 4. 1,143
- 3-28. When applying asphalt shingles, how far past the drip edge should you extend the first course to prevent water from backing up under the shingles?
1. 1 in.
 2. 5 in.
 3. 5/8 in.
 4. 1/4 in.
- 3-29. Flashing has what primary purpose(s)?
1. Reflect heat only
 2. Protect against water seepage only
 3. Both 1 and 2 above
 4. Act as a vapor barrier
- 3-30. The concealed nailing method of installing roll roofing is used when maximum service life is required.
1. True
 2. False
- 3-31. A 24-inch-long wood shingle on a roof with a 1/4 pitch should have what maximum exposure?
1. 5 in.
 2. 5 1/4 in.
 3. 5 3/4 in.
 4. 7 1/2 in.
- 3-32. What is/are the primary difference(s) in the installation of wood shakes and wood shingles?
1. Shorter nails are used with wood shingles only
 2. Shingles have less exposure only
 3. An underpayment between each course of shakes only
 4. All of the above
- 3-33. What is the most common type of ridge used on asphalt shingle roofs?
1. Boston
 2. Sheet metal
 3. Tile
 4. Prefabricated
- 3-34. Roofing asphalts are graded on what characteristic?
1. Color
 2. Weight per pound
 3. Temperature at which they begin to flow
 4. Temperature at which they begin to soften
- 3-35. In built-up roofing, which of the following types of felts should be used?
1. Organic only
 2. Glass fiber only
 3. Glass fiber and asphalt only
 4. Any of the above

- 3-36. What is the main purpose of using felt paper on a built-up roof?
1. To hold the bitumens together
 2. To insulate
 3. To soak up excess asphalt
 4. To act as a vapor barrier
- 3-37. Asphalt should be in what temperature range when applied?
1. 275°F to 375°F
 2. 375°F to 425°F
 3. 450°F to 500°F
 4. 500°F to 550°F
- 3-38. The aggregate on a built-up roof serves which of the following functions?
1. Protect the bitumen from sunlight only
 2. Increase wind and fire resistance only
 3. Permit use of a thick surface coating of bitumen only
 4. Each of the above
- 3-39. The first two layers of a five-ply roof are referred to as what type of nailer?
1. Dry
 2. Base
 3. Bottom
 4. Back
- 3-40. A kettle operator should perform what task first?
1. Fill the fuel tank
 2. Fill the kettle with pieces of asphalt
 3. Inspect the kettle, making sure it is dry inside
 4. Light-off the kettle
- 3-41. In a kettle, how should you maintain hot binder at an even temperature?
1. Adjust the burner
 2. Add material at the same rate as the melted material is drawn off
 3. Adjust the fuel pressure
 4. Remove material faster than you add it
- 3-42. If a kettle catches fire, which of the following is an action you should take first?
1. Remove the burner
 2. Shut off the fuel
 3. Spray water on the kettle
 4. Close the lid
- 3-43. The distance maintained between the mopper and the felt layer should not exceed
1. 9 ft
 2. 7 ft
 3. 3 ft
 4. 5 ft
- 3-44. Which of the following properties is/are essential for wood siding?
1. Weathers easily
 2. Paints easily only
 3. Works easily only
 4. Paints and works easily
- 3-45. Which of the following horizontal sidings can be obtained with either shiplap or tongue-and-groove edges?
1. Drop
 2. Bevel
 3. Dolly Varden
- 3-46. In the installation of vertical board siding, board widths range from 2 to 4 inches.
1. True
 2. False
- 3-47. When installing 4- by 8-foot vertical plywood siding, which of the following materials should you apply to the joints to ensure maximum watertightness?
1. Battens only
 2. Caulking only
 3. Water-repellent preservative and caulking only
 4. Any of the above

- 3-48. To present a uniform appearance, siding should line up with which of the following parts?
1. Drip caps of the doors and windows only
 2. Bottoms of doors and windows only
 3. Drip caps and bottoms of doors and windows
 4. Sides of doors and windows
- 3-49. When wood siding has a natural finish, what type of nail should you use?
1. Aluminum only
 2. Stainless steel only
 3. Aluminum or stainless steel
 4. Galvanized
- 3-50. What distance usually determines the average exposure of horizontal siding?
1. Underside of the windowsill to the top of the window drip cap
 2. Bottom of the windowsill to the foundation wall
 3. Bottom of the door to the drip cap of the door
 4. Bottom of the door to the bottom of the windowsill
- 3-51. What should be the exposure of 8-inch siding installed on a building where the overall height of the windows is 68 inches?
1. 5 7/8 in.
 2. 6 in.
 3. 6 3/16 in.
 4. 6 7/8 in.
- 3-52. The first installed course of bevel siding is usually blocked out with which of the following items?
1. Fridgeing
 2. Flashing
 3. A starter strip
 4. A batten
- 3-53. How should siding that returns against a roof surface, such as a dormer, be joined?
1. Mitered corners
 2. Metal corners
 3. Flashing
 4. Corner boards
- 3-54. When applying wood shingles where the "siding effect" is not a consideration, what spacing should you use to allow for expansion during rainy weather?
1. 1/16 to 1/8 in.
 2. 1/8 to 1/4 in.
 3. 1/4 to 1/2 in.
- 3-55. Flashing should be used in a structure where rain or melted snow penetration is possible.
1. True
 2. False
- 3-56. A 24-foot gutter run should have what pitch?
1. 1 7/8 in.
 2. 1 3/4 in.
 3. 1 1/2 in.
 4. 1 5/16 in.
- 3-57. Full height vertical members of a panel door are known by what term?
1. Muntins
 2. Rails
 3. Stiles
 4. Runners
- 3-58. An exterior door made of thin plywood faces over a wood framework with a particle board core is what type?
1. Panel
 2. Flush
 3. Combination
 4. Clad

- 3-59. A main entrance door is normally what size?
- 1 1/2 in. thick, 2 ft 8 in. wide, 6 ft 8 in. high
 - 1 3/4 in. thick, 3 ft 0 in. wide, 6 ft 8 in. high
 - 1 3/4 in. thick, 2 ft 8 in. wide, 6 ft 8 in. high
 - 1 3/4 in. thick, 3 ft 0 in. wide, 7 ft 0 in. high
- 3-60. Securing a doorframe to the framing members requires what nail (a) size and (b) type?
- (a) 16d (b) casing
 - (a) 12d (b) common
 - (a) 10d (b) finish
 - (a) 8d (b) duplex
- 3-61. Where on each side of a jamb should shims be located?
- Bottom only
 - Bottom and top only
 - Center only
 - Bottom, top, and center
- 3-62. Heat loss through metal window frames is less than through wood window frames.
- True
 - False
- 3-63. The small wood members that separate the lights in a sash are known by what term?
- Meeting rails
 - Parting beads
 - Muntins
 - Weather strips
- 3-64. Which of the following windows has a wood sash with a single large light?
- Casement
 - Double hung
 - Hopper
 - Stationary
- 3-65. What advantage does a casement window have over a double-hung window?
- Provides more light
 - Provides better insulation
 - Provides better ventilation
 - Is easier to install
- 3-66. What feature best distinguishes sheet glass from plate glass?
- Plate glass is polished flat on both sides
 - Color
 - Thickness
 - Only plate glass is manufactured in a continuous ribbon and then cut in large sheets
- 3-67. Because of its high rate of expansion, what type of glass requires the most careful cutting, handling, and glazing?
- Laminated
 - Wired
 - Tempered
 - Heat absorbing
- 3-68. Which of the following types of glass should be used where the hazard of flying glass must be avoided?
- Wire
 - Laminated
 - Insulating
 - Safety
- 3-69. When cutting glass, what allowance should you deduct from the measurements to allow for expansion?
- 1/16 in.
 - 1/8 in.
 - 3/16 in.
 - 1/4 in.

- 3-70. What is the required minimum equipment needed to cut glass efficiently?
1. A glass cutter and straightedge only
 2. A glass cutter and tape measure only
 3. A glass cutter, straightedge, flat solid table, and tape measure
 4. A glass cutter, straightedge, and a honing stone
- 3-71. When scoring glass, you should use what minimum number of strokes?
1. One
 2. Two
 3. Three
 4. Four
- 3-72. Which of the following types of sash should be primed before glazing?
1. Old and new metal sash only
 2. Old and new wood sash only
 3. Both 1 and 2 above
- 3-73. What is the primary purpose of putty used in glazing?
1. To make a weathertight joint
 2. To hold the glass in the sash
 3. To improve the appearance
 4. To reduce glass expansion
- 3-74. When you are mounting wire glass in a small wooden window frame, what should be the first step?
1. Insert the glass into the window frame with the wire twist in the vertical position
 2. Lay a continuous 1/6-in.-thick bed of putty in the putty run
 3. Insert the glass into the window frame with the concave side facing out
 4. Lay a continuous bead of putty against the perimeter of the glass
- 3-75. To clean glass after glazing or painting, what material should you use?
1. Ammonia
 2. Mineral spirits
 3. Caustic soap
 4. Acid solution

ASSIGNMENT 4

Textbook Assignment: Chapter 5 - Interior Finish of Walls and Ceilings
Chapter 6 - Interior Finish of Floors, Stairs, Doors, and Trim

- 4-1. In drywall construction, "nail pops" result from which of the following factors?
1. Stud misalignment
 2. Studs drying out
 3. Improper size nails
 4. Chemical reaction with coatings in nails
- 4-2. To align ceiling joists in an unfinished attic, what type of structural member should you use?
1. Ribbon board
 2. Ledger
 3. Strongback
 4. Ridge beam
- 4-3. The most common size gypsum board has what (a) thickness and (b) type edges?
1. (a) 1/2 in. (b) tapered
 2. (a) 1/2 in. (b) beveled
 3. (a) 5/8 in. (b) beveled
 4. (a) 5/8 in. (b) square
- 4-4. What type of drywall is also called greenboard or blueboard?
1. PB
 2. WR or MR
 3. BB
 4. X
- 4-5. What type of drywall edge(s) may be left exposed?
1. Tapered
 2. Square only
 3. Beveled only
 4. Square and beveled
- 4-6. When studs are spaced 24 inches OC, what thickness of drywall is recommended for quality wall construction?
1. 5/8 in.
 2. 1/2 in.
 3. 3/8 in.
 4. 1/4 in.
- 4-7. What is best reason for using a convex head hammer when driving drywall nails?
1. To leave the nailhead flush with the surface
 2. To dimple the material without tearing the paper
 3. To drive the nail at an angle
 4. To countersink the nail
- 4-8. For the best drywall finish, you should apply the topping coat with which of the following drywall tools?
1. Finishing trowel
 2. Bow trowel
 3. 6 in. knife
 4. 12 in. knife
- 4-9. What length of smooth-shanked nail should be used when installing double layers of 1/2-inch drywall?
1. 1 in.
 2. 1 3/4 in.
 3. 2 in.
 4. 2 1/4 in.
- 4-10. What minimum length Type W screw you should use when installing 1/2-inch drywall to wood studs?
1. 5/8 in.
 2. 3/4 in.
 3. 1 in.
 4. 1 1/8 in.

- 4-11. Which of the following metal beads is installed to protect drywall from edge damage?
1. Stop
 2. Corner
 3. Casing
 4. Edge
- 4-12. When you are attaching drywall, what is the recommended nailing procedure?
1. Start at the top and work down
 2. Start at the side joining the previous sheet and work across
 3. Start at the center and work out
 4. Start at the bottom and work up
- 4-13. Single-nailed drywall should be installed with what OC nail spacing on the (a) walls and (b) ceiling?
1. (a) 6 in. (b) 8 in.
 2. (a) 8 in. (b) 6 in.
 3. (a) 7 in. (b) 8 in.
 4. (a) 8 in. (b) 7 in.
- 4-14. After the first application of joint compound to a joint, what should be the next step?
1. Allow the joint compound to dry
 2. Feather the joint
 3. Tape the joint
 4. Sand the joint
- 4-15. Select from the following list the proper sequence for taping a gypsum drywall joint.
- A. Apply a coat of joint compound to bury tape
 - B. Press tape into center of joint
 - C. Allow compound to dry
 - D. Sand edges
 - E. Spread a bed of joint compound about 4-in. wide
1. B, E, D, A, C
 2. E, B, A, C, D
 3. A, B, E, D, C
 4. B, A, E, C, D
- 4-16. When you are repairing gypsum drywall, holes larger than what minimum diameter should be cut back to the center of the nearest studs?
1. 6 in.
 2. 2 in.
 3. 8 in.
 4. 4 in.
- 4-17. What is the recommended minimum thickness of plywood panels used directly over framing members?
1. 1/4 in.
 2. 3/8 in.
 3. 1/2 in.
 4. 5/8 in.
- 4-18. When you are installing vertical board panels, what is the maximum spacing of furring strips?
1. 16 in.
 2. 24 in.
 3. 36 in.
 4. 48 in.
- 4-19. Most acoustical ceilings have what main purpose?
1. Sound absorption
 2. Light reflection
 3. Flame resistance
 4. Appearance enhancement
- 4-20. Assume the dimensions of a ceiling are 16 feet 8 inches by 10 feet 2 inches. When calculating the material requirements, what dimensions should you use?
1. 16 ft 0 in. by 10 ft 0 in.
 2. 16 ft 8 in. by 10 ft 2 in.
 3. 17 ft 0 in. by 11 ft 0 in.
 4. 18 ft 0 in. by 12 ft 0 in.
- 4-21. Assume you are laying out the grid pattern for a ceiling. How should the main tees run?
1. Parallel to the joists
 2. At a 45° angle to the joists
 3. Perpendicular to the joists
 4. In a crisscross pattern between the joists

- 4-22. In what order should the following items be installed?
- Acoustic panels
 - Cross tees
 - Wall angles
 - Suspension wires
 - Main tees
- A, B, C, D, E
 - B, E, C, A, D
 - C, D, E, B, A
 - D, E, B, C, A
- 4-23. Assume a new acoustical ceiling will be installed 14 inches lower than the old ceiling. The suspension wires should be cut with what minimum length?
- 14 in.
 - 16 in.
 - 18 in.
 - 20 in.
- 4-24. In a suspension ceiling system, where on the main tee should the first tie wire be installed?
- 2 ft from either end
 - 4 ft from either end
 - At the first cross-tee connection
 - At the center
- 4-25. When installed, which of the following components require the use of splice plates?
- Aluminum main tees only
 - Steel main tees only
 - Aluminum and steel main tees
 - Aluminum cross tees
- 4-26. When installing acoustical panels, why should you work from several cartons at the same time?
- All the panels may not be the same direction
 - Every other panel in a carton has a different edge cut
 - The color, pattern, or texture may vary slightly
 - Not all panels can be cut or used as border panels
- 4-27. When installing 12-inch-square ceiling tile in a 15-foot 8-inch-wide room, what pattern should you use in terms of rows and size?
- 15 full rows and two 4-in. tiles
 - 15 full rows and one 8-in. tile
 - 14 full rows and one 10-in. tile
 - 14 full rows and two 10-in. tiles
- 4-28. Insulating materials are usually installed in which of the following locations?
- Walls and ceilings only
 - Ceilings and floors only
 - Floors and walls only
 - All of the above
- 4-29. Into which of the following categories should insulation be grouped?
- Blanket and loose fill only
 - Loose fill and rigid only
 - Rigid and blanket only
 - All of the above
- 4-30. The primary function of the asphalt sheet material attached to blanket-type insulation is to resist
- water vapor
 - heat
 - cold
 - insects
- 4-31. Which of the following methods is normally used for installing loose-fill insulation?
- Pouring only
 - Blowing only
 - Hand packing only
 - Each of the above

- 4-32. To be effective, reflective insulation must have what minimum air space?
1. 1/2 in.
 2. 3/4 in.
 3. 1 in.
 4. 3 1/2 in.
- 4-33. Rigid insulation may be used for which of the following structural purposes?
1. Sheathing and building boards only
 2. Building boards and roof decking only
 3. Roof decking and sheathing only
 4. All of the above
- 4-34. Which of the following substances is sometimes mixed with plaster to reduce heat transmission?
1. Vermiculite or perlite
 2. Rock or glass wool
 3. Sawdust
 4. Shredded bark
- 4-35. To reduce moisture and protect wood frame members, what type of material should you use as ground cover in crawl spaces?
1. Roll roofing only
 2. Polyethylene only
 3. Roll roofing or polyethylene
 4. Blanket insulation
- 4-36. When structures are built on slabs, it is a good practice to install a vapor barrier under the slab.
1. True
 2. False
- 4-37. When insulation is used without a vapor barrier, what material is normally used to envelop the entire exposed wall and ceiling?
1. Building paper
 2. Plastic film
 3. Building board
 4. Fiber glass
- 4-38. When placing fill insulation over ceilings, which of the following devices should you use to ensure uniform thickness?
1. Carpenter's level
 2. String line
 3. Bottom board
 4. Leveling board
- 4-39. Which of the following materials are effective vapor barriers against condensation?
1. Aluminum foils only
 2. Asphalt-laminated papers only
 3. Plastic films only
 4. Each of the above
- 4-40. The system in which wall-height rolls of plastic film are applied to produce a positive seal against water vapor is known by what term?
1. Enveloping
 2. Vapor proofing
 3. Moisture proofing
 4. Positive sealing
- 4-41. What is the most practical way to remove moisture from roof spaces?
1. Heating the air
 2. Adding more insulation
 3. Ventilating
 4. Installing a dehumidifier
- 4-42. How are hip roofs best ventilated?
1. By inlet ventilators along the rake and outlet ventilators along the soffits
 2. By inlet ventilators along the ridge and outlet ventilators along the soffits
 3. By inlet ventilators along the soffits and outlet ventilators along the ridge
 4. By inlet and outlet ventilators along the ridge

- 4-43. Which of the following inlet ventilation systems is recommended for use on low-pitched flat roofs with overhangs?
1. Continuous slot
 2. Ridge
 3. Louvered
 4. Wall
- 4-44. What is the primary advantage of softwood flooring over hardwood flooring?
1. Less dense
 2. Lower cost
 3. Improved wear resistance
 4. Easier to maintain
- 4-45. Subfloor boards are normally laid over joists in what direction?
1. Parallel
 2. Diagonal
 3. Perpendicular
- 4-46. Building paper is used over subfloors to reduce
1. noise and dust only
 2. dust and air flow only
 3. air flow and noise only
 4. all of the above
- 4-47. What factor usually causes cracks to appear in finish floors several months after the floor has been laid?
1. Expansion of subfloor material
 2. Absorption of moisture after delivery
 3. Poor nailing
 4. Weak floor joists
- 4-48. At which of the following angles should nails be driven through the tongue of tongue-and-groove flooring?
1. 30° to 35°
 2. 35° to 40°
 3. 40° to 45°
 4. 45° to 50°
- 4-49. How can you prevent splitting the tongue when nailing tongue-and-groove flooring?
1. By using cut nails
 2. By predrilling the nail holes
 3. By using chisel-point nails
 4. By waxing the nail shanks
- 4-50. A vapor barrier is installed under a concrete slab before it is poured. Is any further preparation required for the later installation of wood flooring?
1. Yes
 2. No
- 4-51. What is the expansion allowance for hardboard underpayment when laid next to a vertical surface?
1. 1/8 to 3/8 in.
 2. 3/8 to 1/2 in.
 3. 1/2 to 5/8 in.
 4. 5/8 to 3/4 in.
- 4-52. Nail spacing for 1/2-inch plywood underpayment should not exceed what OC (a) edge and (b) field spacing?
1. (a) 4 in. (b) 8 in.
 2. (a) 5 in. (b) 8 in.
 3. (a) 6 in. (b) 10 in.
 4. (a) 8 in. (b) 10 in.
- 4-53. What is the result of too heavily applied tile adhesive?
1. Tile will not adhere
 2. Adhesive will not set
 3. Tiles will "telegraph"
 4. Adhesive will bleed between tile

- 4-54. Before laying vinyl tile on a floor surface, you should square off the floor, apply the adhesive, and then begin laying the tile from the
1. center of the floor working towards the walls
 2. center of a continuous wall working towards the center of the floor
 3. corner of the floor working towards the opposite corner
 4. stairway or door opening working towards the opposite wall
- 4-55. Which of the following factors is an advantage of using carpeting instead of other types of floor covering?
1. It absorbs sound
 2. It lasts longer
 3. It reduces maintenance
 4. It is cheaper
- 4-56. How many square yards of carpet are required to cover a room 24 feet by 48 feet?
1. 76
 2. 98
 3. 114
 4. 128
- 4-57. When installing cushioned-backed carpeting, which of the following items is/are required?
1. Tack strips only
 2. Double-faced tape only
 3. Additional padding only
 4. All of the above
- 4-58. Rough openings for interior doors are usually framed how much (a) higher and (b) wider than the finished door size?
1. (a) 2 in. (b) 3 in.
 2. (a) 2 1/2 in. (b) 3 1/2 in.
 3. (a) 3 in. (b) 2 1/2 in.
 4. (a) 3 1/2 in. (b) 3 in.
- 4-59. What is the proper name for the edge trim around an interior door opening?
1. Casing
 2. Molding
 3. Jam
 4. Sill
- 4-60. Why are louvered doors the most suitable for use on closets?
1. They are less expensive
 2. They are more durable
 3. They require less space
 4. They allow ventilation
- 4-61. How should hinged doors swing or open?
1. Against a blank wall only
 2. Toward the natural entry only
 3. Both 1 and 2 above
 4. Into a hallway
- 4-62. When plumbing and leveling a doorframe, which of the following materials should you use?
1. Casing wedges
 2. Wood shingle wedges
 3. Wood shake wedges
 4. Hairpin wedges
- 4-63. What edge-distance allowance is made when the casing is nailed to the jamb?
1. 1/16 in.
 2. 1/8 in.
 3. 3/16 in.
 4. 3/8 in.
- 4-64. What should you do to a mitered casing joint to lessen the chance of its opening up as the casing material dries?
1. Use a glued spline
 2. Install wood screws
 3. Glue the joint
 4. Use a wood filler

- 4-65. Which of the following door hardware finishes is the most common
1. Brass
 2. Bronze
 3. Nickel
 4. Stainless steel
- 4-66. As you stand facing a door, you notice that the door is hinged on the left and swings away from you. What type of door is it?
1. Left-hand reverse
 2. Left hand
 3. Right-hand reverse
 4. Right hand
- 4-67. What size loose-pin butt hinge should you use for a door 1 3/8 inches thick?
1. 5 in. extra heavy
 2. 5 in. by 6 in.
 3. 3 1/2 in. by 3 1/2 in.
 4. 4 in. by 4 in.
- 4-68. A doorknob should be installed at what standard height?
1. 36 to 38 in.
 2. 34 to 36 in.
 3. 32 to 34 in.
 4. 30 to 32 in.
- 4-69. To prevent scraping as a door is opened, what clearance is allowed for the doorstop on the hinge side of the door?
1. 1/64 in.
 2. 1/32 in.
 3. 1/16 in.
 4. 1/8 in.
- 4-70. Which of the following devices holds the door in place by contact with the latch?
1. Rim
 2. Vertical rod
 3. Mortise
 4. Strike plate
- 4-71. Which of the following members is NOT trim for a double-hung window?
1. Apron
 2. Sash stops
 3. Stool
 4. Window jamb
- 4-72. What should be the first inside window trim member to be installed?
1. Stop
 2. Stool
 3. Casing
 4. Apron
- 4-73. Name the small strip molding used on the upper edge of a two-piece baseboard.
1. Base cap
 2. Base top
 3. Chair rail
 4. Bumper
- 4-74. Name the trim molding added to the baseboard at the floor-wall junction.
1. Corner
 2. Rail
 3. Shoe
 4. Base
- 4-75. What type of joint should be used at inside corners of ceiling moldings?
1. Butt
 2. Coped
 3. Mitered
 4. Lapped

ASSIGNMENT 5

Textbook Assignment: Chapter 7 - Plastering, Stuccoing, and Ceramic Tile
Chapter 8 - Structural Coatings and Preservatives

- 5-1. Which of the following plaster binding materials should NOT be exposed to severe moisture?
1. Portland cement
 2. Lime
 3. Gypsum
- 5-2. Which of the following statements best describes gypsum gauging plaster?
1. Contains lime putty which increases the dimensional stability of the plaster while drying and provides initial surface hardness
 2. Has a high density, yields a highly polished surface, and provides crack resistance when used with fine sand
 3. Contains finely ground gypsum with or without aggregate
 4. Contains no admixtures and is designed to reduce sound
- 5-3. Gauging material is added to lime plaster for which of the following reasons?
1. To induce shrinkage and produce early strength only
 2. To induce late strength and counteract shrinkage tendencies only
 3. To produce early strength and counteract shrinkage tendencies only
 4. All of the above
- 5-4. Portland cement plaster should NOT be applied directly over what type of walls?
1. Exterior masonry
 2. Interior masonry
 3. Interior or exterior metal-lath covered
 4. Gypsum tile or plasterboard
- 5-5. When the aggregate material is excessively fine grain, why is the plaster strength reduced?
1. The smaller quantity of water required raises the water to cement ratio and increases the dry set time
 2. The greater quantity of water required raises the cement to water ratio and reduces the dry set density
 3. Less binder paste is used because of the lack of space between particles of the fines, resulting in a weak mixture
 4. More binder paste is needed to coat all particle surfaces, resulting in sufficient fines to close all voids and leaving a rich but unstable mixture
- 5-6. Which of the following aggregates should be used in acoustical plaster?
1. Perlite only
 2. Vermiculite only
 3. Perlite or vermiculite
 4. Sand
- 5-7. For plaster application, what must be installed between structural members to form a continuous surface?
1. Plaster planes
 2. Insulation
 3. Lath
 4. Fire blocking
- 5-8. To provide a good key, wood lath plaster base should have what minimum spacing?
1. 1/4 in.
 2. 3/8 in.
 3. 1/2 in.
 4. 5/8 in.

- 5-9. What is the main purpose of the 3/4-inch holes in perforated gypsum lath?
1. To allow for easy installation
 2. To allow for expansion of the mortar
 3. To provide ventilation for interior walls
 4. To provide a mechanical key for the mortar
- 5-10. What type of lath is considered the most versatile?
1. Metal
 2. Gypsum
 3. Wood
 4. Insulation
- 5-11. What length of blueed gypsum lath nail is recommended for installing 1/2-inch gypsum lath?
1. 1 in.
 2. 1 1/8 in.
 3. 1 3/16 in.
 4. 1 1/4 in.
- 5-12. What is the minimum end lap for wire lath?
1. 1 in.
 2. 2 in.
 3. 3 in.
 4. 2 1/2 in.
- 5-13. What is the purpose of a casing bead?
1. To reinforce the lath and inside corners
 2. To reinforce the door and window casings
 3. To provide room for expansion between plaster edges and the edges of baseboards
 4. To provide a finished edge around openings
- 5-14. To minimize shrinking and cracking around the upper corners of doors and windows, you should install which of the following items?
1. Plaster grounds
 2. Expanded metal lath strips
 3. Base screeds
 4. Casings beads
- 5-15. Which of the following components serve as temporary guides around window and door openings and are removed after the plaster has set?
1. Cornerites
 2. Corner beads
 3. Plaster grounds
 4. Lath strips
- 5-16. What is the recommended type and proportions for two-coat plaster used on a masonry or concrete base?
1. Gypsum plaster 1:2.5
 2. Lime plaster using lime putty 1:3.5
 3. Portland cement 1:5
 4. Lime plaster using hydrate lime 1:7.5
- 5-17. You should not apply a lime finish to which of the following base coats?
1. Gypsum
 2. Portland cement
 3. Gypsum-vermiculite
 4. Lime
- 5-18. When mortar materials are mixed by hand, what is the maximum time that mixing should continue after all the materials have been blended?
1. 5 min
 2. 10 min
 3. 15 min
 4. 20 min

- 5-19. After all ingredients for plaster have been added, what minimum time should a mixing machine be allowed to mix?
1. 7 min
 2. 5 min
 3. 3 min
 4. 10 min
- 5-20. Normally, what is the specified flatness tolerance of a plastered surface?
1. 1/16 in. in 4 ft
 2. 1/8 in. in 10 ft
 3. 1/4 in. in 8 ft
 4. 1/2 in. in 16 ft
- 5-21. What tool is used for carrying mortar?
1. A rectangular trowel
 2. A darby
 3. An angle trowel
 4. A hawk
- 5-22. To improve adhesive bonds, what tool should be used to make furrows between coats?
1. Darby
 2. Browning brush
 3. Cork float
 4. Scarifier
- 5-23. On a typical plastering crew, which of the following individuals normally mixes the plaster?
1. Crew leader
 2. Tender
 3. Plasterer
 4. Supervisor
- 5-24. Which of the following statements is applicable to the fog-spray curing of portland cement plaster?
1. The finish coat should be applied at least 3 days after the brown coat is applied
 2. The finish coat should be spray-cured for 48 hours after its application
 3. The brown coat should be fog-sprayed for 48 hours followed by the same treatment for the scratch coat
 4. The scratch coat should be fog-sprayed for 24 hours and the brown coat fog-sprayed for 36 hours
- 5-25. A putty coat plaster finish is ready for troweling at what point?
1. When the angles have been straightened
 2. When the surface has been doubled back
 3. When the skim coat has been applied
 4. When the plaster begins to set and the surface becomes dull
- 5-26. Throwing plaster on a surface with a brush produces which of the following textures?
1. Stippled
 2. Travertine
 3. Dash coat
 4. Pebble

5-27. Which of the following statements best defines stucco?

1. A combination of cement, sand, and water that, when applied, resembles concrete having a hard, strong, fire-resistant surface which resists rot and fungus and retains color
2. A combination of masonry cement, sand, and water that, when applied, resembles cement having a medium-hard surface which requires frequent painting to prevent rot and fungus
3. A combination of cement, sand, and water that, when applied, needs a plasticizing material to act as sealer in preventing rot and fungus
4. A combination of masonry cement, sand, and water that, when applied, produces a smooth-hand surface which, if not painted immediately after application, will begin to mildew

5-28. A brown coat of stucco should be moist-cured for how many hours?

1. 8
2. 16
3. 24
4. 48

5-29. When using an acid wash to prepare a concrete surface for stucco, you should use one part acid to how many of water?

1. 6
2. 10
3. 12
4. 20

5-30. Which of the following factors is most likely to cause discoloration in a stucco finish coat?

1. Using stainless steel flashing
2. Not retempering the mortar
3. Failure to completely mix the finish coat materials
4. Using different proportions of materials

5-31. Ceramic tile is normally divided into what two classifications?

1. Interior and exterior
2. Exposure and location
3. Wall and floor
4. Interior and floor

5-32. How many basic ceramic tile installation methods are there?

1. One
2. Two
3. Three
4. Four

5-33. What is the minimum soaking time for tile when using the cement-mortar installation method?

1. 1 hr
2. 2 hr
3. 30 min
4. 45 min

5-34. Which of the following types of grout should be used when sanitation is important?

1. Latex
2. Furan resin
3. Epoxy
4. Drywall

5-35. How many parts of hydrated lime and sand should be used with three parts of cement for a float coat of a mortar bed setting for ceramic tile?

1. 1 part lime and 7 parts sand
2. 6 parts lime and 10.5 parts sand
3. 3 parts lime and 10.5 parts sand
4. 8 parts lime and 21 parts sand

- 5-36. In paint, which of the following ingredients provides the coloring?
1. Drier
 2. Pigment
 3. Thinner
 4. Vehicle
- 5-37. Which of the following paint ingredients acts as the binder?
1. Pigment
 2. Drier
 3. Vehicle
 4. Thinner
- 5-38. Which of the following chemical compounds are NOT synthetic resins?
1. Napthas
 2. Phenolics
 3. Epoxies
 4. Chlorinated rubbers
- 5-39. What is the purpose of a paint solvent?
1. Give more body to the paint
 2. Prevent blistering of the paint
 3. Add gloss to the paint
 4. Adjust the consistency of the paint
- 5-40. To increase resistance of oil-base paint to water and decrease drying time, you should add small amounts of what material to the paint?
1. Linseed oil
 2. Polyester
 3. Varnish
 4. Naptha
- 5-41. Which of the following ratios determines the level of gloss in enamel paints?
1. Pigment to binder
 2. Thinner to pigment
 3. Vehicle to binder
 4. Binder to drier
- 5-42. Of the following paint types, which is best suited to masonry surfaces?
1. Oil-base
 2. Enamel
 3. Epoxy
 4. Latex
- 5-43. In areas that require frequent washing, which of the following types of paint is normally preferable?
1. Portland cement
 2. Latex
 3. Aluminum
 4. Rubber-base
- 5-44. When a can of ready-mix aluminum paint is bulging, how should the pressure be released?
1. Carefully remove the lid
 2. Carefully puncture the lid
 3. Shaking the can in a vibrator
 4. Cool the can
- 5-45. Which of the following materials does NOT obscure the surface to which it is applied?
1. Varnish
 2. Primer
 3. Enamel
 4. Latex
- 5-46. Which of the following types of varnish is intended for exterior use?
1. Flat
 2. Spar
 3. Rubbing
 4. Color
- 5-47. Which of the following materials is often used as a sealant over wood knots to prevent bleeding?
1. Lacquer
 2. Stain
 3. Shellac
 4. Varnish

- 5-48. What type of stain contains alcohol as a vehicle?
1. Spirit
 2. Chemical
 3. Oil
 4. Water
- 5-49. Which of the following advantages is gained by proper surface preparation?
1. Minimum repair only
 2. Increased durability only
 3. Ease of repainting only
 4. Each of the above
- 5-50. You should prepare a galvanized iron surface for painting with which of the following types of cleaners?
1. Acid wash
 2. Solvent
 3. Silicone
 4. Latex emulsion
- 5-51. Dirt and fungus are best removed from concrete and masonry by washing with which of the following types of solutions?
1. Emulsion
 2. Alkaline
 3. Efflorescence
 4. Trisodium phosphate
- 5-52. During the process of removing efflorescence from concrete, what should you do after scrubbing with an acid solution?
1. Let the solution remain on the surface about 10 min
 2. Let the solution dry and then dry brush
 3. Rinse it thoroughly with clear water
 4. Apply a second coat of the solution, and let it remain on the surface for 30 min
- 5-53. What is the correct procedure for mixing muriatic acid and water?
1. Add the acid to the water
 2. Add the water to the acid
 3. Add 15-percent acid to 85-percent water
 4. Add half acid and half water
- 5-54. To repair large defects in a concrete or masonry surface, which of the following grout mixtures should you use?
1. Two parts mortar sand, 1 part portland cement, 1 part water
 2. Two parts portland cement, 2 parts mortar sand, 2 parts water
 3. Three parts mortar sand, 1 part portland cement, enough water to make a puttylike consistency
 4. Two parts mortar sand, 1 part portland cement, enough water to make a soupy consistency
- 5-55. Before painting, a plaster patch should set for what minimum time?
1. 1 day
 2. 2 days
 3. 3 days
 4. Until thoroughly dry
- 5-56. When preparing dirty wood surfaces for painting, which of the following methods should you follow?
1. Sweeping, dusting, and washing the surface with a solvent or water and soap
 2. Bleaching the surface with a solution of oxalic acid and water
 3. Sanding the surface to a uniform color
 4. Pretreating the surface with wood cleaner

- 5-57. Before painting, what is the procedure for sanding a rough wood surface?
1. Start with a No. 1 sandpaper; follow up with a No. 2; and finish with a No. 3x
 2. Start with a No. 2 sandpaper; follow up with a No. 1; and finish with a No.2/0 grit
 3. Start with a No. 3 sandpaper; follow up with a No. 2; and finish up with a No. 1
 4. Start with a No. 2 sandpaper and finish up with a No. 2 and 2/0 grit
- 5-58. When used on porous wood, concrete, and masonry, which of the following items produces a smooth finish floor coat?
1. Conditioner
 2. Sealer
 3. Filler
 4. Latex paint
- 5-59. When applied to chalky bases, which of the following items improves adhesion of water-based paints?
1. Conditioner
 2. Sealer
 3. Filler
 4. Latex paint
- 5-60. Which of the following items prevents resin from bleeding through applied paint coatings?
1. Conditioner
 2. Sealer
 3. Filler
 4. Latex paint
- 5-61. Before applying filler to open-grained wood, stain should be applied and allowed to dry for what minimum time?
1. 12 hr
 2. 24 hr
 3. 36 hr
 4. 48 hr
- 5-62. Before varnishing, you should use a filler on which of the following open-grained woods?
1. Beech
 2. Birch
 3. Maple
 4. Walnut
- 5-63. To mix two-package metallic paints, what method is recommended?
1. Shaker
 2. Manual
 3. Propeller
 4. Berate
- 5-64. During the paint mixing process, what is meant by "boxing the paint"?
1. Pouring it back and forth from one container to another
 2. Mixing it with a mechanical agitator
 3. Mixing it with a paddle
 4. Cutting it with a suitable thinner
- 5-65. What are the three primary or true colors that are the basis for all subsequent shades, tints, and hues?
1. Blue, red, and green
 2. Red, black, and white
 3. Black, yellow, and white
 4. Yellow, blue, and red
- 5-66. Before its application by roller, a ready-mix paint must be thinned.
1. True
 2. False
- 5-67. What is the recommended maximum amount of tint for 1 gallon of paint?
1. 1 oz
 2. 2 oz
 3. 3 oz
 4. 4 oz

- 5-68. Strong sunlight on paint surfaces is most likely to cause which of the following problems?
1. Peeling
 2. Blistering
 3. Alligatoring
 4. Chalking
- 5-69. Inadequate bonding and what other cause are the prime reasons for peeling?
1. High-surface temperature
 2. Improper mixing of paint
 3. Inferior paint
 4. Improper surface preparation
- 5-70. Temperature changes causing the substrate and overlaying paint film to expand and contract are most likely to result in which of the following conditions?
1. Checking and cracking
 2. Peeling
 3. Alligatoring
 4. Blistering
- 5-71. Accumulation of moisture under paint is most likely to cause which of the following problems?
1. Crawling
 2. Peeling
 3. Blistering
 4. Checking
- 5-72. Breaks in paint film extending through to the substrate indicate what type of paint failure?
1. Checking
 2. Cracking
 3. Peeling
 4. Crawling
- 5-73. Spraying paint too thickly or moving the spray gun too slowly are most likely to cause which of the following paint failures?
1. Chalking
 2. Peeling
 3. Blistering
 4. Wrinkling
- 5-74. Failure of a gloss paint to attain its normal gloss is most likely to be caused by which of the following conditions?
1. Application in cold weather only
 2. Inadequate surface preparation only
 3. Application of the paint before the undercoat has dried only
 4. Any of the above
- 5-75. The degree of protection provided to wood by a wood preservative depends on which of the following conditions?
1. The type of wood only
 2. The moisture content of the wood only
 3. The length of time the wood is treated only
 4. All of the above

ASSIGNMENT 6

Textbook assignment: Chapter 9 - Advanced Base Field Structures and Embarkation
Chapter 10 - Heavy Construction

-
- 6-1. After an ABFC shipment is arranged in a storage area, what should be the next step?
1. Fit parts together
 2. Inventory
 3. Start erection process
 4. Report discrepancies
- 6-2. A PEB is shipped with all materials and instructions necessary for erection.
1. True
 2. False
- 6-3. In military construction, how many teams are recommended for the erection of a 20- by 48-foot PEB?
1. One
 2. Two
 3. Three
 4. Four
- 6-4. The 20- by 48-foot, rigid-frame, straight-walled building can easily be disassembled, moved, and erected again without waste or damage because of what feature?
1. Prestressed concrete pads
 2. Large metal C-clamps
 3. Bolted connections
 4. Fiberboard panels
- 6-5. Before placing concrete for the foundation piers of a rigid-frame building, which of the following tasks should you perform?
1. Bolt the frames together only
 2. Place templates and anchor bolts only
 3. Uncrate the paneling only
 4. All of the above
- 6-6. While the foundation is being prepared for a 20- by 48-foot rigid-frame building, which of the following work assignments can you perform?
1. Glaze the windows only
 2. Bolt the rigid-frame assemblies only
 3. Assemble the door leaves only
 4. Any of the above
- 6-7. Until ready to be used, which of the following materials should remain crated?
1. Girts
 2. Panels
 3. Eave struts
 4. Brace rods
- 6-8. What should you do to ensure building materials are accessible during assembly of a PEB?
1. Keep all building materials in one central location
 2. Keep the building materials on trucks
 3. Place the materials around the building site where they will be used
 4. Maintain at least 50 ft of clearance between the stockpiles of building materials
- 6-9. In PEBs, the high-strength bolts used to connect the rigid-frame assemblies are identified by what means?
1. A painted mark across the bolt threads
 2. A notch at the base of each bolt
 3. An embossed HS on each bolt head
 4. An embossed Y on each bolt head

- 6-10. Once all the parts have been laid out and checked, erection of a 20- by 48-foot PEB should begin with the center frame member.
1. True
 2. False
- 6-11. During the course of erecting a PEB, when is the framework first plumbed?
1. Before the sidewall girts are installed
 2. After the exterior panels are positioned
 3. Before the base angles are installed
 4. After all the brace rods are in position
- 6-12. Which of the following steps must be taken before the panels of a PEB are installed?
1. Install the furring strips
 2. Install the windows
 3. Straighten the girts
 4. Straighten the stringers
- 6-13. When placing the upper and lower wall panels of a PEB, which of the following operations is correct?
1. 1/4- by 1-in. machine screws are placed first
 2. Upper wall panels are placed before the lower wall panels
 3. Upper wall panels overlap the lower wall panels
 4. Lower wall panels overlap the upper wall panels
- 6-14. Where should the cave panels for a PEB be installed?
1. One row ahead of the ridge panels
 2. Two rows ahead of the ridge panels
 3. One row behind the ridge panels
 4. Two rows behind the ridge panels
- 6-15. When should the doorjambs of a PEB be installed?
1. After installing the interior lining
 2. After end-wall structural parts are completed
 3. After installing exterior end-wall panels
 4. After installing the roof panels
- 6-16. What kind of concrete nails should you use to nail the base furring to the concrete deck of a PEB?
1. 8d, box
 2. 2 in., No. 10
 3. 1 1/4 in., No. 9
 4. 3/4 in., No. 8 flathead
- 6-17. After placing the base, corner, and gable furrings of a PEB, what should you install next?
1. Hardboard liners
 2. Eave moldings
 3. Batten strips
 4. Vertical furring
- 6-18. When installing hardboard in a PEB, you should ensure the gap between panels is
1. 1/8 in.
 2. 1/4 in.
 3. 5/16 in.
 4. 3/8 in.
- 6-19. For the flooring of a wood-frame tent, what material should you use?
1. 3/8-in. fiberboard
 2. 5/8-in. pressboard
 3. 1/2-in. plywood
 4. 1/4-in. tempered Masonite™
- 6-20. Wall and roof framing members of a 16- by 32-foot wood-frame tent should have what spacing?
1. 1 ft OC
 2. 2 ft OC
 3. 3 ft OC
 4. 4 ft OC

- 6-21. When modified with a metal roof, extended rafters, and screened-in areas, a 16- by 32-foot wood-frame tent becomes what type of hut?
1. Southeast Asia
 2. Caribbean
 3. Wood-frame
 4. Tropical
- 6-22. When two 4-seat latrine boxes are set up side by side, what size pit is required?
1. 3 by 6 ft
 2. 2 by 6 ft
 3. 3 by 7 ft
 4. 4 by 8 ft
- 6-23. How many trough-type urinals should be furnished with an 8-seat latrine?
1. One
 2. Two
 3. Three
 4. Four
- 6-24. Which of the following conditions normally indicates the need for steel piles?
1. Driving through compressible soil
 2. The requirement for 95-ft piles
 3. Light loads must be supported
 4. A retaining wall is needed
- 6-25. Which of the following features is used to designate the size of a pier?
1. Length
 2. Height
 3. Width
 4. Diameter of the piling
- 6-26. A pier is protected against shock damage from a ship tied alongside by a system of
1. batter piles
 2. bearing piles
 3. stringers
 4. fender piles
- 6-27. The two main components of a timber trestle are
1. bents and abutments
 2. substructure and superstructure
 3. bracing and caps
 4. decking and footings
- 6-28. Which of the following conditions normally require(s) trestle bents?
1. Soft or marshy ground
 2. Swift currents
 3. Deep water
 4. Solid dry ground or shallow water
- 6-29. Which of the following is considered a vertical structural member?
1. Post
 2. Cap
 3. Sill
 4. Girder
- 6-30. How much overlap is figured in when calculating center-to-center horizontal distance between bents?
1. 1 ft
 2. 2 ft
 3. 3 ft
 4. 4 ft
- 6-31. What is the usual length of girder stock?
1. 10 ft
 2. 12 ft
 3. 13 ft
 4. 14 ft
- 6-32. What is the minimum width of a single-lane trestle?
1. 12 ft
 2. 14 ft
 3. 16 ft
 4. 18 ft

- 6-33. What size stock is used for transverse diagonal bracing?
1. 2 x 2
 2. 2 x 4
 3. 2 x 6
 4. 2 x 8
- 6-34. When placing timber girders, the OC spacing is what distance?
1. 3 ft 3 in.
 2. 3 ft 3 1/4 in.
 3. 3 ft 3 1/2 in.
 4. 3 ft 3 5/8 in.
- 6-35. How many layers of planking make up a timber deck?
1. One
 2. Two
 3. Three
 4. Four
- 6-36. The timber decking consists of 3-inch planks.
1. True
 2. False
- 6-37. At an abutment, which of the following items prevents the approach of road from washing out or eroding?
1. End cap
 2. End wall
 3. End dam
 4. End curb
- 6-38. Which of the following is a load-bearing member made of timber, steel, concrete, or a combination of these materials?
1. Cofferdamn
 2. Pile
 3. Trestle
 4. Pile bent
- 6-39. What is the tip diameter of a pile shorter than 40 feet?
1. 8 to 11 in.
 2. 9 to 12 in.
 3. 10 to 13 in.
 4. 11 to 14 in.
- 6-40. The butt diameter of piles longer than 40 feet can be greater than the distance between the pile leads.
1. True
 2. False
- 6-41. During a pile driving operation, which of the following actions is necessary to protect the pile from damage?
1. Cut the pile perpendicular to its axis
 2. Use steel shoes to protect the pile
 3. Sharpen the tip of the pile
 4. Cut the butt of the pile square and chamfer it
- 6-42. Which of the following piles is required when piles of 80 feet or longer are required?
1. Timber
 2. Steel
 3. Concrete
 4. Combination
- 6-43. Which of the following piles should be used to form a continuous wall to resist horizontal pressure resulting from earth or water loads?
1. Sheet pile
 2. Precast pile
 3. Cast-in-place pile
 4. Open-end pipe pile
- 6-44. Which of the following is constructed below water-retaining structures to retard the flow of water through the foundation?
1. Cofferdamns
 2. Bulkheads
 3. Cutoff walls
 4. Trench sheathing

- 6-45. The working drawings for timber piers contain which of the following information?
1. Bill of materials only
 2. Dimensions and location of all structural members only
 3. Required driftpins, bolts and hardware, and bill of materials only
 4. All of the above
- 6-46. When the use of batter piles is required, what is the specified angle?
1. 5 in 12
 2. 2 in 12
 3. 3 in 12
 4. 4 in 12
- 6-47. On a bridge, the inside stringers on the superstructure are fastened by what method?
1. Through bolts
 2. Driftbolts
 3. Spikes
 4. Nails
- 6-48. Which of the following conditions exist when a pile vibrates too much laterally?
1. Leaning
 2. Cracking
 3. Bouncing
 4. Springing
- 6-49. What is the minimum amount the butt of a wood pile can be crushed or broomed before you should cut it back to sound wood?
1. 1 in.
 2. 2 in.
 3. 3 in.
 4. 4 in.
- 6-50. It is always necessary to drive a friction pile to refusal.
1. True
 2. False
- 6-51. Waterfront structures are broadly divided into how many categories?
1. One
 2. Two
 3. Three
 4. Four
- 6-52. Breakwaters and jetties fall under which of the following categories?
1. Offshore structures
 2. Alongside structures
 3. Wharfage structures
 4. Deepwater structures
- 6-53. Which of the following structures works to direct and confine a current or tidal flow into a selected channel?
1. Breakwater
 2. Jetty
 3. Seawall
 4. Groin
- 6-54. Of the following structures, which has the stabilization of a shoreline as its main purpose?
1. Rubble-mound breakwater
 2. Caisson
 3. Seawall
 4. Jetty
- 6-55. How many various types of cast-in-place concrete seawalls are there?
1. Five
 2. Two
 3. Three
 4. Four
- 6-56. Which of the following structures is placed to arrest a current and deflect it away from a shoreline?
1. Breakwater
 2. Jetty
 3. Groin
 4. Seawall

6-57. Which of the following structures is a relatively thin wall supported by a series of tie rods running back to a deadman?

1. Groin
2. Bulkhead
3. Seawall
4. Caisson

6-58. How many types of caissons are used in constructing foundations underwater?

1. One
2. Two
3. Three
4. Four

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(Refer to instructions in front of course)

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